

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An article comprising
  - an element having a first and a second surface, wherein
  - the first surface is adapted to hold a first electrical charge, and wherein the second surface is adapted to hold a second electrical charge, the first surface being substantially parallel to the second surface,
  - means for providing an electric field across at least part of the element, said means comprising
    - means for providing the first electrical charge to the first surface of the element, and
    - means for providing the second electrical charge to the second surface of the element, the second electrical charge being different from the first electrical charge in order to move electrons in a direction substantially perpendicular to the first or the second surface,
  - wherein
    - the element comprises a material or a material system being prepared so as to reduce electron scattering within the material or material system by having a predetermined crystal orientation perpendicular to the first or second surface, and by having an impurity concentration of less than  $10^{14} \text{ cm}^{-3}$ , and
    - the material layer has a thickness in a direction at least substantially perpendicular to the first or the second surface, which is equal to or larger than  $0.2 \text{ }\mu\text{m}$ .
2. (Original) An article according to claim 1, wherein the material or material system comprises a semiconductor material, such as silicon, germanium, silicon carbide,

gallium arsenide, indium phosphide, indium antimonide, indium arsenide, aluminium arsenide, zinc telluride or silicon nitride or any combination thereof.

3. (Previously Presented) An article according to claim 1, wherein the preparation of the material or material system comprises doping the material or material system with a dopant so as to obtain a predetermined doping level.

4. (Original) An article according to claim 3, wherein the dopant comprises phosphorus, lithium, antimony, arsenic, boron, aluminium, tantalum, gallium, indium, bismuth, silicon, germanium, sulfur, tin, tellurium, selenium, carbon, beryllium, magnesium, zinc or cadmium or any combination thereof.

5. (Previously Presented) An article according to claim 3, wherein the predetermined doping level is less than  $1 \times 10^{18} \text{ cm}^{-3}$ , such as less than  $1 \times 10^{14} \text{ cm}^{-3}$ , such as less than  $1 \times 10^{13} \text{ cm}^{-3}$ , such as less than  $1 \times 10^{12} \text{ cm}^{-3}$ .

6. (Previously Presented) An article according to claim 1, wherein the means for providing the first electrical charge to the first surface comprises an at least partly conductive first material or material system.

7. (Previously Presented) An article according to claim 1, wherein the means for providing the second electrical charge to the second surface comprises an at least partly conductive second material or material system.

8. (Original) An article according to claim 6, wherein the at least partly conductive first material or material system constitutes a layer having a first and a second surface, wherein the second surface is operationally connected to a first terminal of a charge reservoir and wherein the first surface is in direct contact with the first surface of the material or material system of the element.

9. (Original) An article according to claim 7, wherein the at least partly conductive second material or material system constitutes a layer having a first and a second

surface, wherein the first surface is operationally connected to a second terminal of the charge reservoir and wherein the second surface is in direct contact with the second surface of the material or material system of the element.

10. (Previously Presented) An article according to claim 6, wherein the at least partly conductive first and second material or material system comprises a metal or a highly doped semiconductor material with a doping level higher than  $1 \times 10^{17} \text{ cm}^{-3}$ .

11. (Original) An article according to claim 10, wherein the at least partly conductive first and second material or material system comprises gold, chromium, platinum, aluminium, copper, cesium, rubidium, strontium, indium, praseodymium, samarium, ytterbium, francium or europium or any combination thereof.

12. (Previously Presented) An article according to claim 1, wherein the electrons comprise quasi-ballistic electrons.

13-33. (Canceled).

34. (Previously Presented) A flat panel display comprising  
an article according to claim 1, the article further comprising  
a layer of material being adapted to emit light at a plurality of wavelengths  
upon exposure of electrons, said material layer defining, in a plane substantially parallel to the first and second surface of the element, a two-dimensional matrix having one or more surface elements, each surface element being adapted to emit light at a predetermined wavelength,  
and

means for selectively providing electrons to the one or more surface elements in the two-dimensional matrix.

35. (Previously Presented) A flat panel display according to claim 34, wherein the material layer for emitting the plurality of wavelengths comprise an appropriate luminophors or standard colour television phosphors.

36. (Previously Presented) A flat panel display according to claim 34, wherein the emitted light comprises at least three wavelengths corresponding to at least three colours.

37. (Previously Presented) A flat panel display according to claim 36, wherein any colour may be deduced from a combination of the at least three colours emitted from the layer.

38. (Previously Presented) A flat panel display according to claim 34, wherein the emitted wavelengths corresponds to colours red, yellow and blue, or to colours red, green and blue.

39. (Previously Presented) A flat panel display according to claim 34, wherein the electrons comprise quasi-ballistic electrons.

40. (Previously Presented) A flat panel display according to claim 34, wherein the selective means comprises a pattern so as to define, in a plane substantially parallel to the first or second surface, a two-dimensional matrix of electrically controllable matrix elements, said pattern being formed of the at least partly conductive material or material system.

41-52. (Canceled).

53. (Previously Presented) An article comprising  
an element having a first and a second surface area, wherein  
the first surface area is adapted to hold a first electrical charge, and wherein  
the second surface area is adapted to hold a second electrical charge,  
means for providing an electric field across at least part of the element, said  
means comprising  
means for providing the first electrical charge to the first surface area of the  
element, and

means for providing the second electrical charge to the second surface area of the element, the second electrical charge being different from the first electrical charge in order to move electrons between the first surface area and the second surface area,

wherein

- the element comprises a material or a material system being prepared so as to reduce electron scattering within the material or material system, by having a predetermined crystal orientation perpendicular to the first or second surface, and by having an impurity concentration of less than  $10^{14} \text{ cm}^{-3}$ , and

the material layer has a thickness in a direction at least substantially perpendicular to the first or the second surface, which is equal to or larger than  $0.2 \text{ }\mu\text{m}$ .

54. (Original) An article according to claim 53, wherein the material or material system comprises a semiconductor material, such as silicon, germanium, silicon carbide, gallium arsenide, indium phosphide, indium antimonide, indium arsenide, aluminium arsenide, zinc telluride or silicon nitride or any combination thereof.

55. (Previously Presented) An article according to claim 53, wherein the preparation of the material or material system comprises doping the material or material system with a dopant so as to obtain a predetermined doping level.

56. (Original) An article according to claim 55, wherein the dopant comprises phosphorus, lithium, antimony, arsenic, boron, aluminium, tantalum, gallium, indium, bismuth, silicon, germanium, sulfur, tin, tellurium, selenium, carbon, beryllium, magnesium, zinc or cadmium or any combination thereof.

57. (Previously Presented) An article according to claim 55, wherein the predetermined doping level is less than  $1 \times 10^{18} \text{ cm}^{-3}$ , such as less than  $1 \times 10^{14} \text{ cm}^{-3}$ , such as less than  $1 \times 10^{13} \text{ cm}^{-3}$ , such as less than  $1 \times 10^{12} \text{ cm}^{-3}$ .

58. (Previously Presented) An article according to claim 53, wherein the means for providing the first electrical charge to the first surface comprises an at least partly conductive first material or material system.

59. (Previously Presented) An article according to claim 53, wherein the means for providing the second electrical charge to the second surface comprises an at least partly conductive second material or material system.

60. (Original) An article according to claim 58, wherein the at least partly conductive first material or material system constitutes a layer having a first and a second surface, wherein the second surface is operationally connected to a first terminal of a charge reservoir and wherein the first surface is in direct contact with the first surface of the material or material system of the element.

61. (Original) An article according to claim 59, wherein the at least partly conductive second material or material system constitutes a layer having a first and a second surface, wherein the first surface is operationally connected to a second terminal of the charge reservoir and wherein the second surface is in direct contact with the second surface of the material or material system of the element.

62. (Previously Presented) An article according to claim 57, wherein the at least partly conductive first and second material or material system comprises a metal or a highly doped semiconductor with a doping level higher than  $1 \times 10^{17} \text{ cm}^{-3}$ .

63. (Original) An article according to claim 61, wherein the at least partly conductive first and second material or material system comprises gold, chromium, platinum, aluminium, copper, cesium, rubidium, strontium, indium, praseodymium, samarium, ytterbium, francium or europium or any combination thereof.

64. (Previously Presented) An article according to claim 53, wherein the electrons comprise quasi-ballistic electrons.